cerebral cicatrix. Cholesterin, an alcohol by function, plays a much more important part in the chemistry of brain tissue than is commonly believed. * * * The large amount of cholesterin deposited in all degenerated tissue, *e. g.*, in common atheroma of arteries by the side of calcic phosphate, shows that the matters which kept it in solution, namely, the phosphorized and nitrogenized principles of nerve tissue, were decomposed and absorbed; once divorced from the bioplastic centre cholesterin remains isolated, loses the colloid state, assumes the crystalline condition, and henceforth is a dead material of no use to the economy, and perhaps dangerous, by the possibility of the increase of its particles under crystalline attraction. * * * Faulty excretion has a most disastrous influence upon the chemistry of the brain, as can be seen in all renal and all acute febrile diseases. * * * The brain is the most marvellous chemical laboratory of the animal economy; in it the albuminous, phosphorized, nitrogenized, oxygenated principles which perform functions as acids, alcohols, alkaloids, or bases, or as ethers, are brought into the most varied relations for the production of power of the most refined nature. The organic ingredients and constituents are as varied and necessary as in any other part of the body; and in some portions of the brain at least, a selective faculty causes the potash salts to prevail over the soda salts, as they do in muscle. This brings about the same contrast between the sodically alkaline blood and those parts of the brain, as exists between the blood and the muscle. The contrast is one favoring reaction."

On the Electrical Excitability of the Brain in Anæmia.—J. Orchansky (*Arch. f. Psych.*, etc, Charkow, 1883) has studied the effects of blood-letting upon the excitability of the brain in narcotized and unnarcotized dogs by exposing and exciting the cortical motor area, for the anterior and posterior extremity, by means of the induced and constant current, and with the following results: After the abstraction of about one seventh of the total quantity of blood no effects were observed; after one fifth, increased excitability. A still greater abstraction diminished the excitability, at first slowly, then, after three fifths had been abstracted, very rapidly, falling in a few minutes to nothing. The increase as well as the diminution of the excitability does not follow the loss of blood until after an interval of ten to fifteen minutes.

In the phase of increased excitability a condition of psychical irritability was observed in unnarcotized animals, while during the period of diminished excitability the animal was quiet. The investigator thinks that these changes in excitability are not due to the mechanical or physical effects of diminished blood-pressure, but to nutritive disturbance of the brain substance.

On the theory that there exists in the cortex apparatuses for inhibition and impulsion, he believes that the increased excitability

results from exhaustion of the inhibitory centres, by which the impulsion centres become hyperæsthetic. The later involvement of the latter reduces the excitability. The same explanation may be given for the exaltation of excitability from the primary action of narcotics.—Rosenthal, *Centralblatt*, No. 17.

NERVE-STRETCHING AND PRESSURE (*Arch. f. Physiologie*, 2 u. 3 H.).—Experiments to determine the strain which the sciatic nerve of the frog will sustain have been made by Zederbaum under Prof. Kronecker's direction. They found that motor excitability was somewhat exalted by stretching the nerve at right angles under a weight of 75 to 500 grammes; was diminished when 500 to 900 grammes were applied, and from 1,000 grammes a decided reduction followed. In one case excitability remained after the application of 1,700 grammes. On the other hand, the reflex excitability was not retained under a strain of more than 400. The conclusion is drawn, that, with otherwise intact centrifugal conduction in consequence of the strain, the only motor conduction which is arrested consists of such excitations as proceed from reflex excitation of the cord, while direct motor and sensory conduction is preserved. The nerves of rabbits sustain pressure less than those of frogs. Unilateral section of the cord had no effect on the phenomena above described.—Obersteiner, *Centralblatt*, No. 17.

TROPHIC NERVES.—A very elaborate contribution to this subject, of a purely experimental kind, by Lewaschew, of St. Petersburg, working under Prof. Botkin, appears to confirm the growing belief that the nutritive changes which follow nervous lesions are referable to vascular disturbances (*Cent. f. d. med. W.*, 1883, p. 193). In one most important respect Lewaschew's conclusion is different from previous views: he holds that the dilatation of the vessels and associated phenomena consequent on nervous lesions, and frequently the precursors of "trophic" changes in the tissues, are due to irritation of the vaso-dilator nerves, and not to paralysis of the vaso-motor nerves. Lewaschew's investigations consisted in irritating the sciatic nerve in dogs by means of thread steeped in weak acids or salt, and then noting the phenomena that ensued in the limb, as well as making careful post-mortem examinations of all the parts involved. Contraction of the vessels of the limb was rarely the result of this operation on the sciatic, and when this result was obtained, no trophic changes ensued. Generally the very opposite condition of circulation was produced; the vessels dilated and pulsated, the limb swelled, the temperature rose, and all in the course of a few days. These phenomena would persist for several months, and then disappear rather quickly, but meanwhile more permanent changes were taking place. The soft parts round the nails were swollen and ulcerated, the epidermis of the sole thickened, the bones became enlarged, the